New set of claims

1. A method for manufacturing products (1, 30, 40), wherein a mass, comprising at least natural polymers such as starch, is brought into or through a mold (60, 70, 80) and the mass in the mold is heated, such that this involves at least cross-linkage of the natural polymers, while of at least one first part (6, 36, 85) of the product (1, 30, 40), the material composition is influenced such that the material properties of the relevant first part (6, 36, 85) deviate from the material properties of parts adjoining said part characterized in that the at least one first part is formed from a second mass having a composition different from that of the first mass from which at least one part and preferably all parts (2, 4, 32, 36, 87, 89, 48) adjoining the relevant first part (6, 36, 85) are formed.

2. A method according to claim 1, wherein at least said at least one first part (6, 36, 85) in the mold is formed such that a relatively high concentration of softener is obtained and/or maintained herein, such that the flexibility of the relevant at least one first part (6, 36, 85) is greater than the flexibility of parts (2, 4, 32, 36, 87, 89, 48) adjoining said part.

3. A method according to claim 1 or 2, wherein the second mass is selected from a group of masses comprising relatively much softener and/or softener retaining components, such that after the manufacture of the product, so much softener or softener of such nature remains behind in the relevant first part (6, 36, 85) that the pliability thereof is greater than the pliability of wall parts of parts (2, 4, 32, 36, 48, 87, 89) adjoining said part.

4. A method according to claim 1, wherein the second mass is selected from a group of masses comprising relatively little softener or softener retaining components, such that after the manufacture of the product, such a small amount of softener or softener of such nature remains behind in the relevant first part (6, 36, 85) that the brittleness of at least a part thereof is greater than that of wall parts of parts (2, 4, 32, 36, 48, 87, 89) adjoining said part.

5. A method according to any one of claims 1-4, wherein the first and second masses are selected from groups of masses having different types and/or amounts of fibers, the second mass is selected such that after the manufacture of the product, a concentration and/or orientation of fibers is obtained and/or a type of fibers is included in the relevant first part (3, 36, 85) which deviates from the concentration, orientation and/or nature of any fibers present in other parts (2, 4, 32, 36, 48, 87, 89).

6. A method according to any one of claims 1-5, wherein the first and second masses are selected from groups of masses having different types and/or amounts of blowing agents and/or fillers, the second mass is selected so that at least during the manufacture of the product, a concentration of and/or a type of blowing agent and/or filler is obtained in the relevant first part (6, 36, 85) which deviates from that in other parts (2, 4, 32, 36, 48, 87, 89) of the product, to obtain a product in which, in the relevant first part (6, 36, 85), a structure is realized whose density deviates from the density of other parts (2, 4, 32, 36, 48, 87, 89) of the product.

7. A method according to any one of claims 1-6, wherein the first and second masses are selected from groups of masses having different types and/or amounts of colorants, wherein the second mass is selected so that in the relevant first part (6, 36, 85), a concentration of and/or a type of colorant is obtained which deviates from that in other parts (2, 4, 32, 36, 48, 87, 89) of the product, to obtain a product in which the relevant first part (6, 36, 85) has a color deviating from that of other parts (2, 4, 32, 36, 48, 87, 89) of the product.

8. A method according to any one of claims 1-7, wherein the first and second masses are selected from groups of masses having different types and/or concentrations of cross-linkers, wherein the second mass is selected so that at least during the manufacture of the product, a concentration of and/or a type of cross-linkers is obtained in the relevant first part (6, 36, 85) which deviates from that in other parts (2, 4, 32, 36, 48, 87, 89) of the product, to obtain a product in which the relevant first part (6, 36, 85) has a structure

whose density deviates from the density of other parts (2, 4, 32, 36, 48, 87, 89) of the product.

9. A method according to any one of claims 1-8, wherein the second mass is introduced between two flows of first mass.

10. A method according to any one of claims 1-9, wherein the second mass is introduced into a mold in a zone forming the relevant first part (6, 36, 85), while the first mass is introduced into a number of zones forming parts (2, 4, 32, 36, 48, 87, 89) adjoining said first zone, such that in the closed mold, the first mass and the second mass are forced against each other and interconnected.

11. A method according to any one of claims 1-10, wherein the first and the second mass in the mold are interconnected prior to or at the start of the occurrence of cross-linkage of the natural polymers.

12. A method according to any one of claims 1-11, wherein the first mass and the second mass are introduced into the mold out of phase, while preferably the introduction of the second mass is started prior to the introduction of the first mass.

13. A method according to any one of claims 1-12, wherein the first mass in the mold is subjected to a first pressure and the second mass in the mold is subjected to a second pressure, the first pressure deviating from the second pressure.

14. A method according to any one of the preceding claims, wherein the or each mass is introduced into the mold under a pressure higher than atmospheric, preferably through injection molding.

15. A method according to any one of the preceding claims, wherein at least three different masses are used for the manufacture of the product.

16. A method according to any one of the preceding claims, wherein at least the at least one first part (6, 36, 85), after formation in the mold, is processed such that the material properties of said relevant first part (6, 36, 85) are

changed, at least relative to parts (2, 4, 32, 36, 48, 87, 89) adjoining said part (6, 36, 85).

17. A method according to any one of the preceding claims, wherein to at least a portion of the at least one first part (6, 36, 85), a first coating is applied, said coating comprising at least a component active with the relevant first mass, such that between the relevant active component and the mass, there is obtained a reaction whereby the material properties of the relevant first part (6, 36, 85) are influenced.

18. A method according to claim 17, wherein at least the parts (2, 4, 32, 36, 48, 87, 89) adjoining the first part (6, 36, 85) are covered prior to the application of the first coating.

19. A method according to claim 18, wherein parts (2, 4, 32, 36, 48, 87, 89) adjoining the first part (6, 36, 85) are at least partially covered by a second coating, substantially impermeable to said reactive component of the first coating, such that the first part (6, 36, 85) is at least partially kept clear of the second coating.

20. A method according to claim 19, wherein a second coating is used having a high hardness relative to the first coating, a relatively low permeability and high resistance to at least said reactive component.

21. A method according to claims 19 and 20, wherein the first coating is applied over the second coating.

22. A method according to any one of claims 17-21, wherein as first coating, a water-based coating is used.

23. A method according to any one of claims 17-22, wherein as first coating, a relatively flexible, elastic coating is used.

24. A method according to any one of claims 17-23, wherein as first coating, a coating is used comprising a number of constituents from the group of: acrylic binders, latices, styrene-butadiene latex, polyvinyl alcohol, polyvinyl acetate, polyacrylates, polyethylene glycol, polylactic acid, synthetic polymers,

natural polymers, natural waxes, synthetic waxes (for instance ionic polyethylene waxes) or derivatives thereof or combinations of the preceding.

25. A method according to any one of claims 19-24, wherein as second coating, a coating is used comprising a number of constituents from the group of:

melamine, acrylic binders, water-resistant lacquers (for instance cellulose lacquer), cellulose acetate propionates, polyethylene, polyacrylates, synthetic polymers, natural polymers, synthetic waxes, natural waxes, polylactic acid, derivatives thereof or combinations of the preceding.

26. A method according to claim 24 or 25, wherein cross-linkers are incorporated into the first and/or second coating, in particular from the group of zirconium acetate, ammonium zirconium carbonate, urea formaldehyde, melamine formaldehyde, glyoxal, polyamideamine-epichlorohydrin, epoxides, trimetaphosphate, derivatives thereof or combinations of the preceding.

27. A method according to any one of claims 24-26, wherein in the first coating, at least one of the waxes is combined with at least one of the said other constituents.

28. A method according to any one of claims 24-27, wherein the first, respectively second coating is formed almost entirely from one of said constituents.

29. A method according to any one of the preceding claims, wherein the first part (6, 36, 85) is designed as a hinge part 6 having at least one recess, in particular at least one groove extending over the width of the hinge part is provided.

30. A method according to any one of the preceding claims, wherein into the first part (6, 36, 85), after cross-linking of the natural polymers, a softener is introduced.

31. A method according to any one of the preceding claims, wherein a reactive component is incorporated into the first part (6, 36, 85), outside the mold, while it is at least substantially prevented from flowing away to the

other parts, preferably a softener having a relatively large particle size and/or high viscosity.

32. A method according to claim 38, wherein as reactive component, at least a fatty, oily or waxy ingredient or the like is used.

33. A method according to any one of the preceding claims, wherein as softener, at least one from the following group is used: water, polyols, glycol, glycerol, glycerin, polyethylene glycol, polypropylene glycol, propylene glycol, sorbitol, glucose, derivatives thereof or combinations of preceding softeners.

34. A method according to any one of the preceding claims, wherein at least during a portion of the cross-linking of the natural polymers, the first part is at least partially compressed.

35. A method according to any one of the preceding claims, wherein in or on at least the first part, an active component is provided for adjusting the surface tension of at least said first part of the product with cross-linked natural fibers, in particular for increasing the surface tension.

36. A method according to any one of the preceding claims, wherein to at least a part of the product, a coating is applied whose surface tension is approximately equal to or lower than the surface tension of the product part to which the coating is applied.

37. A method according to any one of the preceding claims, wherein a coating is applied to the product, said coating comprising cross-linkers for the mass, in particular natural polymers incorporated therein.

38. A method according to any one of the preceding claims, wherein at least two coatings are applied at least partially one over the other, at least one of the coatings comprising an active component capable of reacting with the at least one other coating.

39. A method according to claim 38, wherein as active component, at least cross-linkers are used.

40. A method according to any one of claims 17-39, wherein the product is gripped at the first part (6, 36, 85), such that it is covered at least

substantially completely, after which the second coating is applied to other parts (2, 4, 32, 36, 48, 87, 89), in particular sprayed thereon, after which the first part is released and, after that, the second coating is applied, in particular sprayed thereon.

41. A product, manufactured through baking in a mold at least partially, wherein at least a first part (6, 36, 85) is provided wherein the first part (6, 36, 85) is at least substantially manufactured from a second mass whose composition deviates from the composition of at least one first mass from which said adjoining parts (2, 4, 32, 36, 48, 87, 89) are manufactured.

42. A product according to claim 41, having a foamy, blown structure, comprising a first product part (6, 36, 85) and a second product part (2, 4, 32, 36, 48, 87, 89), connected thereto via said first part (6, 36, 85), said first part (6, 36, 85) comprising a core (24) having relatively large blown cells, covered on two opposite sides by an outer layer (26) having relatively small cells and a compact structure, at least a portion of said first part (6, 36, 85) comprising, at least almost directly after formation of the product, in at least one of the outer layers (26), a softener in a concentration higher than that in the parts (2, 4, 32, 36, 48, 87, 89) adjoining said first part (6, 36, 85) and/or of a nature deviating from any softener in the adjoining parts (2, 4, 32, 36, 48, 87, 89), at least the relevant at least one outer layer (26) having a flexibility which is higher than the flexibility of the outer layer (26) of said adjoining parts (2, 4, 32, 36, 48, 87, 89).

43. A product according to any one of claims 41-42, wherein at least a portion of at least one outer layer (26) of said first part (6, 36, 85) is provided with a first coating (28), said adjoining parts (2, 4, 32, 36, 48, 87, 89) having at least one outer layer connecting to said outer layer, which is provided with a second coating, connecting to the relevant outer layer, said second coating being relatively closed, in particular closed to a component reactive with the mass from which the product, at least the first part, is manufactured, more in particular water proof and water resistant.

44. A product according to claim 43, wherein the second coating on the relevant outer layer is at least partially covered by the first coating.

45. A product according to claim 43 - 44, wherein the first coating is more flexible, in particular has a higher tensile strength than the second coating.

46. A product according to any one of claims 41-45, wherein the relevant first part (6, 36, 85) comprises at least one opening.

47. A product according to any one of claims 41-46, wherein said first part (6, 36, 85), in at least one of the outer layers and preferably at least one of the outer layers and an adjoining part of the core, comprises a concentration of softener which is greater than the concentration of softener of a comparable type in the parts (2, 4, 32, 36, 48, 87, 89) adjoining said first part (6, 36, 85).

48. A product according to claim 47, wherein the relevant softener is selected from a group of oils, fats, waxes, alcohols, sugars.

49. A product according to any one of claims 41-48, wherein the product in the first part (6, 36, 85) comprises a concentration and/or type of fibers and/or fibers in an orientation deviating from that in adjoining parts (2, 4, 32, 36, 48, 87, 89).

50. A injection molding apparatus specifically designed for carrying out a method according to any one of claims 1 - 40 comprising at least first injection means (64, 74, 84) for introducing a first mass into a mold (60, 70, 80) and at least second injection means (64, 74, 84) for introducing a second mass into the same mold (60, 70, 80), in particular suitable for use of biodegradable masses, wherein heating means are provided for the mold (60, 70, 80), at least means for connecting heating means of or for such mold.